

L98 (Luna) Intervention and Reintroduction

Spring 2004 Action Plan

A. OVERVIEW

Purpose of Document

Fisheries and Oceans Canada (DFO), in consultation with a scientific panel of experts specializing in the fields of killer whale biology, behaviour, genetics, veterinary medicine, rehabilitation and protection, and the US National Oceanic and Atmospheric Administration (NOAA), developed an action plan for the relocation of the juvenile killer whale L98 (Luna), which was intended to be carried out in the fall of 2003. The original plan has been reviewed and modified, taking into consideration the possibility of a soft reintroduction in the early spring, the change in timing for relocation from fall to spring, and the shared role of DFO and NOAA in leading and partially funding the relocation.

The purpose of this action plan is to: (1) provide an understanding of NOAA and DFO rationale for undertaking this intervention, (2) outline the methods for the relocation and post-release monitoring that both DFO and NOAA endorse, (3) define the respective roles of each agency in undertaking this action plan, and (4) clarify that decisions related to the need for re-intervention will be at the discretion of the agency that has jurisdictional authority for the area in which L98 is located. This document or part thereof may be used to generally define the nature of the work that contractors to the government agencies will undertake.

Background

L98 is a lone juvenile killer whale that has been living in Nootka Sound, a remote inlet off the west coast of Vancouver Island, since July 2001. Initially shy of boats and humans, the whale has increasingly sought contact with boats and dock users over the past year.

There has been considerable public interest in L98, a member of the Southern Resident killer whale population, which are listed as endangered in Canada. In May, DFO made a decision not to intervene in L98's situation. DFO believed that interfering in what may be a natural and potentially important process was not in the best interest of this whale or the Southern Resident population. Enforcement and stewardship programs were established to prevent people from interacting with the whale, and thus not reinforce his propensity towards people and boats. In addition, public notices warning the public and boaters of the risks of interacting with L98, were widely distributed through local postings and media.

The decision to leave L98 in Nootka Sound came with a commitment to monitor the whale's health and well-being and to be responsive to new information. DFO has reviewed the situation regarding L98's current behaviour and the increasing interactions with people both at the dock and on the water, and determined that while L98 appears healthy and is growing adequately, he is a significant risk to the public and property. An independent scientific panel of experts with specialization in the fields of killer whale biology, behaviour, genetics, veterinary medicine, rehabilitation and protection,

advised DFO that the risk to the public may be mitigated if L98 were reintroduced to his population and allowed the opportunity to associate with other whales instead of people and vessels.

Goal of Reintroduction

The goal of undertaking the reintroduction of L98 to his pod is to mitigate the risk to the public and property from the actions of L98. Were L98 to reunite with the southern residents and become a contributing member of that population, intervention would be considered very successful. However, if L98 were to remain a free ranging, wild whale that does not pose a public risk, it would also be considered a success.

DFO, NOAA and the scientific panel, recognize that the reintroduction of L98 may not be successful in preventing the continuation of his undesirable and risky interactions with people and boats and that, in this case, further intervention may be necessary. Therefore, a series of monitoring and contingency plans have been developed to provide for the protection of the public.

B. ROLES AND RESPONSIBILITIES

Phases I, II & III – Reintroduction (Lead or Capture, Transport & Release)

DFO will deploy and conduct the Acoustic Deterrent Device evaluation in Gold River as outlined in Phase I. The ADD will be supplied by NOAA.

DFO will lead the “boat follow” portion of Phase I, and proposes to fulfill this responsibility by:

- a) Establishing an operational field team to respond on short notice and man a vessel to lure L98 from the inner waters of Nootka Sound to the Pacific Ocean entrance in proximity to L-pod when reliable reports of the pod’s presence are received.
- b) Requesting assistance from the Canadian Navy and Coast Guard to provide real-time killer whale sighting data from the Pacific Coast of British Columbia as part of a coast wide effort by NOAA and the marine mammal community.
- c) Overseeing and coordinating enforcement and security operations for Phase I in collaboration with local police agencies, and other security or monitoring groups as deemed appropriate.
- d) Monitoring the success of the attempt to the extent practicable recognizing the limitations of personnel safety, weather, and daylight availability.

DFO will lead Phases II and III of the relocation Plan in consultation and collaboration with NOAA and contractors hired by each agency. DFO proposes to fulfill this responsibility by:

- a) Establishing an operational team that will comprise of DFO management, science and enforcement staff, NOAA management and science staff, Vancouver Aquarium operational and scientific staff and other experts as deemed appropriate.
- b) Contracting the Vancouver Aquarium to conduct the project management services, fundraising and animal-care and handling requirements associated with the capture, holding, transport and release of L98. The Vancouver Aquarium will identify one individual who will be identified as the Contract Authority and will be responsible for the delivery of the contract requirements.

- c) Overseeing and coordinating enforcement and security operations associated with Phases I, II and III of the plan in collaboration with the Vancouver Aquarium, local police agencies, and other security or monitoring groups as deemed appropriate.
- d) Leading and coordinating media and public relations activities in consultation and collaboration with NOAA and contractor hired by either agency as appropriate.
- e) Directing the expenditure of those monies committed by the Government of Canada (\$130,000) in a manner most efficient to carry out the above obligations.
- f) Providing DFO resources in the form of staff time and equipment where these resources are available.
- g) Supporting the efforts of the Contractor to solicit non-government funding and in-kind contributions necessary to complete the relocation plan (all phases).

Phases I & IV – L-pod Alert Network & Post-Release Monitoring

NOAA will lead the alert network portion of Phase I to locate L-pod and relay reliable sightings to DFO in support of a non-capture reunification during the early spring. NOAA proposes to fulfill this responsibility by:

- a) Soliciting public support in reporting all sightings of killer whales along the Pacific Coast of the US and British Columbia.
- b) Notifying researchers that are collaborating to collect data on the winter distribution of killer whales that real-time data on the whereabouts of L-pod are needed from April 1 through May 31, 2004 with particular emphasis on the Washington coast and the west side of Vancouver Island.
- c) Alerting the killer whale conservation community of the need for L-pod sighting data to support a non-capture reunification effort as early in the year as possible.
- d) Requesting assistance from US Navy and Coast Guard units to provide real-time sighting/location information of killer whales off the coast of Washington and Vancouver Island.
- e) Coordinating with DFO to receive and disseminate real-time killer whale sighting data from the Canadian Navy and Coast Guard.

NOAA will lead Phases IV of the Reintroduction Plan in consultation and collaboration with DFO and contractors hired by either agency. NOAA proposes to fulfill this responsibility by:

- a) Establishing an operational team that will be comprised of NOAA management, science and enforcement staff, DFO management, enforcement and science staff, Washington Department of Fisheries and Wildlife (WDFW) science and enforcement staff, The Whale Museum operational and scientific staff and other experts as deemed appropriate.
- b) Contracting The Whale Museum to conduct the post-release monitoring of L98, vessel management around L98 and public education and public notices.
- c) Overseeing and coordinating enforcement and security operations associated with Phase IV of the plan in collaboration DFO enforcement, The Whale Museum, local police agencies, and other security or monitoring groups as deemed appropriate. The Whale Museum will

identify one individual who will be identified as the Project Authority and will be responsible for the delivery of the contract requirements.

- d) Leading and coordinating media and public relations activities in consultation and collaboration with DFO and contractor hired by either agency as appropriate.
- e) Directing the expenditure of those monies committed by the US Government (\$100,000 US) in a manner most efficient to carry out the above obligations.
- f) Providing NOAA resources in the form of staff time and equipment where these resources are available.
- g) Supporting the efforts of the Contractor to solicit non-government funding and in-kind contributions necessary to complete the relocation plan (all phases).

Phase V

DFO and NOAA recognize that the relocation of L98 may not be successful in stopping him from continuing with his undesirable and risky interactions with people and boats and that, in this case, further intervention may be necessary. The authority to re-intervene and determine a subsequent course of action for L98 rests with the agency with the jurisdictional authority for the country in which L98 is located. Therefore, the decision, planning and resources required to re-intervene will rest with the agency that has jurisdiction over the area in which L98 is located.

C. REINTRODUCTION PLAN

Phase I

1.1 Evaluation of Acoustic Deterrence Device (ADD) in Nootka Sound

- Goal is to determine whether commercially available acoustic deterrence devices would be effective at controlling whale behaviours that cause a public risk and property damage.
- Preferred method is to install an ADD system at the Gold River dock and using a developed protocol, to activate the device when the whale is interfering with float planes, damaging boats or putting the public at risk. A protocol for monitoring and evaluation will be developed.

1.2 L-pod Alert Network

- Goal is to reintroduce L98 to his pod as soon as possible in early spring on the west side of Vancouver Island without capture.
- Preferred method is to use previously established boat-following behaviors, with minimal further encouragement, to lead L98 to the Pacific Ocean entrance of Nootka Sound when L-pod is present in the area.
- An alert network will be established to solicit, receive and relay reliable reports of killer whale sightings on the outer coast of Washington and Vancouver Island BC.

- When reliable reports of L-pod are received and likelihood of their presence near Nootka Sound is high, a field team will be dispatched with a vessel to entice the L98 from Nootka Sound to open water where acoustic contact with its pod is possible.
- The period of alert will be from April 1 through May 31 when passage of L-pod on the west side of Vancouver Island is possible.
- During the boat follow, suction cup tags may be applied if the opportunity presents itself, but capture and handling for placement of a semi-permanent tag is not anticipated.
- If sightings are not received during the alert period or the boat follow is unsuccessful Phase II will be initiated.

Phase II

2.1 Capture – Nootka Sound:

- Preferred method of capture is to entice L98 to swim into a net pen.
- Swim-in method to be attempted with the least possible conditioning.
- If a simple enticement procedure fails, 1-2 weeks of training/conditioning may be required to get Luna to swim into a net pen.
- Should the swim-in method fail, back-up methods include soft tail rope, then seine, in order of preference.
- Capture must be undertaken by trained animal-care staff with expertise in the capture of cetaceans and the care of killer whales.
- DFO Project Authority will authorize the capture to proceed once he/she is satisfied that all arrangements are in place for the plan in its entirety to proceed.

2.2 Holding – Nootka Sound:

The following requirements for holding must be met:

- L98 should be held in a floating net pen or other suitable enclosure with minimum dimensions of 40 ft x 40 ft in preparation for transportation.
- Holding period in Nootka Sound should be the minimum possible period. However, preparations must be in place for extending holding should circumstances prevent an immediate transportation clearance.
- Medical screening to be conducted (hematology, serology) as soon as possible. Expected time frame for initial results 3-5 days. If necessary, follow-up testing would require an additional holding period.
- Medical screening and decision protocol is attached as a separate document.
- Feeding to consist of live salmon (preferably wild) remotely delivered into net pen to allow L98 to forage for fish independently in the net pen.
- Non-invasive monitoring of food intake must commence if the period of holding exceeds 2 weeks.
- Acoustical monitoring and recordings to be maintained.

- Trained animal-care staff with expertise in the care of killer whales required on site 24 hrs a day.
- Qualified veterinarian shall be responsible for L98's general health.
- Site access restricted to DFO authorized personnel only (list appended to contractor licence).
- A perimeter exclusion zone to be established around net pen. The location and distance to be determined in consultation with DFO enforcement officials.
- A site security plan, approved by DFO, must be developed and implemented in collaboration with local enforcement officials to ensure the safety of program personnel and L98, to prevent unintentional escape of L98 and to restrict access to the site of unauthorized public and media.

2.3 Transport – Nootka Sound to Southern Vancouver Island

2.3.1 Approval for Transport

To approve the transport of L98 to an area where there is a higher possibility of encountering members of L-pod or other southern resident killer whales, the Canadian Department of Fisheries and Oceans and NOAA must be satisfied that L98 is suitable for release. DFO and NOAA may consult with experts, consisting of government and non-government veterinarians, pathologists, and marine mammal scientists to develop a protocol for assessment, collect diagnostic samples, evaluate clinical observations and diagnostic results, and provide advice on release suitability. The detailed protocol will direct the assessment and approval for transport and will be based on the following general criteria:

2.3.1.1 Health

The medical assessment team is satisfied that a thorough medical examination of L98 has revealed that:

- he does not pose an infectious risk to members of his population;
- he does not have any health complications likely to put him in danger while being transported to the release site; and,
- he does not have any known medical conditions likely to make his survival contingent on ongoing medical assistance (human intervention).

2.3.1.2 Behaviour

The medical assessment team is satisfied that a thorough medical and behavioural examination of L98 by attending veterinarians indicates that:

- he is able to catch and eat live fish;
- he shows evidence of physical competence including but not limited to: normal respiratory capacity and swimming capacity;
- he does not exhibit aberrant behaviour suggestive of an underlying disease or injury that would significantly limit his chance of surviving in the wild (such as abnormal swimming or breathing patterns or highly repetitive behaviours such as head bobbing or arching).

2.3.1.3 Denial of Transport Approval

Should L98 be deemed unsuitable for transport and/or release for any of the above reasons, or other reasons that become apparent, the long-term contingency planning process would be initiated.

2.3.2 Method of Transport

- L98 must be transported in a manner that is safe, humane and efficient.
- The method used to transport L98 from the initial holding pen to the secondary holding pen may include boat, truck or a combination of both.
- Assessment to determine acceptable transport method to be made by the DFO Scientific Authority considering the weather/sea conditions off the west coast, capacity of vessel, time for transport and logistics.
- Must be transported in an open-top container that provides body support and thermal regulation.
- Travel time to be minimized.
- L98 must be accompanied by experienced animal-care staff and a qualified veterinarian.
- Contingency plans for alternate routes, methods and backup equipment must be developed.
- Transport approval, in the form of a transport licence, to be issued by DFO.

Phase III

In determining the best procedures for the holding and release of L98, two overarching and interconnected objectives have been considered and balanced. The first objective is the need to ensure that conditions for release mitigate the risk to public safety and property. The second is that the release provides optimal conditions for L98 to reconnect and, hopefully reunite with his pod or another Southern Resident pod. Reunification of L98 with other Southern Residents is considered to be critical in order for him to no longer be a danger to people and property. Important to achieving these objectives is the choice of release location and the timing of the release. Pedder Bay was initially chosen for a fall release based on observations that L-pod makes regular forays west along the coastline of lower Vancouver Island and because it provides protection from the weather such that a holding pen can be maintained. However, it is close to the Gulf Island/Puget Sound area where boater traffic is considered to be a concern. The choice of this location will be re-evaluated to accommodate for the change in relocation timing related to L-pod presences and boating activity. The above factors would be used to finalize the holding/release location and a decision on this location would be made jointly by DFO and NOAA, in consultation with other experts and contractors.

3.1 Holding at Release Site

3.1.1 Objectives

- Allow L98 to stabilize behaviourally following transport;

- Provide time for a final medical assessment;
- Allow L98 to become familiar with the area acoustically and visually;
- Provide an opportunity for L98 to re-familiarize himself naturally with the sounds of his pod and/or related killer whales in the area, and;
- Allow scientific observers to assess his response to killer whales within acoustic range of his holding area, and vice versa.

3.1.2 Method

The following requirements for holding must be met:

- L98 should be held in a floating net pen or other suitable enclosure with minimum dimensions of 50ft x 50ft in preparation for release.
- The holding period should be the minimum possible period.
- Feeding to consist of live salmon (preferably wild) remotely delivered into net pen to allow L98 to forage for fish independently in the net pen.
- Non-invasive monitoring of food intake must commence if the period of holding exceeds 2 weeks.
- 24 hour acoustic monitoring and recordings for L98 vocalizations and passing Southern Resident vocalizations.
- Trained animal-care staff with expertise in the care of killer whales required on site.
- Qualified veterinarian shall be responsible for L98's general health.
- Basic medical health assessment, including hematology, shall be conducted weekly for the first three weeks of holding and a minimum of every three weeks thereafter.
- Site access must be restricted to authorized personnel only (list appended to licence).
- A perimeter exclusion zone to be established around net pen. The location and distance to be determined in consultation with DFO enforcement officials.
- A site security plan, approved by DFO, must be developed and implemented in collaboration with local enforcement officials to ensure the safety of program personnel and L98, to prevent unintentional escape of L98 and to restrict access to the site of unauthorized public and media.

3.2 Release

3.2.1 Objective

The timing for the release of L98 will attempt to optimize those factors that, in the opinion of DFO Scientific Authority, in consultation with the Project Authority, will have the greatest possibility of reuniting L98 with his pod or another pod of Southern Resident killer whales.

3.2.2 Release Criteria

3.2.2.1 Prior to release, L98 must be cleared medically and behaviorally, and be judged suitably acclimatized by the DFO-approved veterinarian and the DFO Scientific Authority.

3.2.2.2 The DFO Scientific Authority, in consultation with the Project Authority, will determine the optimal timing of release based on the following factors:

- The proximity of his natal pod is within acoustic range of the holding pen;
- The proximity of other resident killer whales is within acoustic range of the holding pen;
- L98's behavioural and acoustical reactions to the sounds and/or proximity of local resident killer whales;
- The presence of vessels, aircraft and people that may attract L98, distracting him from rejoining with other Southern Residents.

3.2.2.3 L98 has been fitted with tracking tags as described in Section 3.1.2 and the approved post-release monitoring program is in place.

3.2.2.4 Public Notices have been issued and Stewardship programs are arranged and operational as described in Section 3.2.

3.2.2.5 Contingency plans for post-release intervention are arranged.

3.2.3 Release Method

The DFO Scientific Authority will authorize the Project Authority to proceed with release.

The net pen holding L98 will be opened and L98 will be allowed to swim free.

Phase IV

4.1 Post-release Monitoring of L98

There are six main objectives for post-release monitoring of L98:

- (i) To maintain knowledge of L98's location to enable a proactive approach to stewardship/public advisory processes;
- (ii) To maintain a knowledge of L98's location to assess potential risks to the public, property, other Southern Resident killer whales and/or L98;
- (iii) To locate L98 efficiently and quickly in the event that recapture or other intervention measures are necessary;
- (iv) To assess the success of the L98 reintroduction project;
- (v) To gather scientific data which will contribute to a long-term collaborative study of social organization in Southern Resident killer whales, and;
- (vi) To provide a complete case history of the rescue and translocation of L98 to provide information for development of policy and processes related to future killer whale rehabilitation and translocation efforts.

4.1.1 Tracking Requirements and Methodology

- Tracking of L98 must be done in such a manner that the program does not draw attention from the public or media that could interfere with his potential for success.
- L98 to be fitted with a semi-permanent satellite/VHF tag, mounted to the dorsal fin.
- L98's location is to be monitored via tags and/or visual observation on a daily basis by vessel, aircraft or shore-based personnel for a period of 2 weeks, and thereafter as determined by the NOAA Authority in consultation with DFO and the Project Authority. It is recognized that vessel-based tracking is weather and location dependent.
- Where the opportunity presents to view L98, without risk of attraction, observations of L98's behaviour, health and potential interactions with people, boats and other killer whales to be recorded.
- Anecdotal reports of L98 sightings from commercial whale watchers and other mariners to be compiled.
- The annual Southern Resident census program will be used to monitor L98's health, status with regard to the population, and behaviour on a long-term basis.

4.1.2 Reporting

- Monitoring personnel will maintain a written report documenting the location and travel patterns of L98 based on VHF and/or satellite tracking and provided to the NOAA/DFO Scientific Authority daily for a period of one month, and weekly for a period of two additional months or until it is determined that L98 does not pose a threat to public safety or is removed.
- NOAA/DFO will maintain direct access to satellite tracking information and coordinate dissemination of the information to monitoring personnel.
- Compilations of anecdotal sightings to be provided to the DFO Scientific Authority weekly.
- Any public-risk situations, including interactions with vessels or aircraft, the disabling of vessels or other property damage, shall be included in the written reports by monitoring personnel to the identified NOAA/DFO contacts. Life threatening situations will be reported immediately.

4.2 Monitoring and Enforcement Program

The primary objective of the stewardship, monitoring and enforcement program is to provide for the protection of the public from potentially dangerous interactions with L98, and to ensure that L98 has the best possible chance to reunite with other Southern Resident killer whales. This will be achieved by ensuring the public is aware of the risks and is educated in appropriate actions, should an encounter occur. Preparedness and on-water presence of stewardship personnel, enforcement officials and rescue agencies will also help to accomplish this goal.

Specifically, the program shall consist of the following elements:

4.2.1 Enforcement

- NOAA and DFO will post public notices advising of the risks to personal safety and property, and the risk of interfering with L98's ability to remain wild and potentially reunite with other Southern Resident killer whales due to interactions with the public.
- NOAA, DFO and WDFW enforcement personnel, in collaboration with relevant local authorities, will undertake action to address violations or persistent disturbances, as defined in the Marine Mammal Regulations.

4.2.2 Stewardship & Public Education

- A stewardship program, approved and authorized by NOAA and DFO, must be developed and implemented, in collaboration with local enforcement officials to provide public education and awareness about the risks to personal safety, property and the risk of interfering with L98's ability to remain wild and potentially reunite with other Southern Resident killer whales due to interactions with the public while documenting interactions between L98 and people/vessels.
- The stewardship program shall remain operational during the period in which L98 remains in the waters off southern Vancouver Island, or until it is deemed that; L98 has fully integrated and/or, the risk to the public or property is negligible by NOAA and DFO.
- The Stewardship team will be empowered to conduct an immediate intervention, where there is a risk to the public, to property, or to the whale itself.
- All materials produced for education and awareness purposes will be reviewed and approved by NOAA and DFO prior to distribution.
- The stewardship program will work collaboratively with the whale-watching industry to educate, inform and seek their cooperation in maintaining an avoidance policy for L98.
- The stewardship program must closely monitor the location of L98 and be responsive to potential problems in the vicinity.
- The stewardship group must be able to work in both US and Canadian waters and hold valid permits or licenses for both countries. Alternatively, two separate teams may collaborate to perform this function.
- All life-threatening situations, including the disabling of vessels, shall be reported immediately to the identified NOAA or DFO enforcement contact dependent on the jurisdiction in which L98 is present.
- The stewardship program will provide a weekly, written report of its efforts, L98's behaviour and location as well as all interactions between L98 and people, boats and other whales to the NOAA identified contact.
- The stewardship team shall make available passage on any stewardship vessel to NOAA or DFO personnel.

4.2.3 Monitoring Intervention Protocols

The following immediate intervention measures have been considered and shall be implemented in an escalating manner, dependent on the seriousness of the incident.

- Primarily, vessels would be instructed to leave the area immediately at speed, by the Monitoring, Enforcement and Stewardship Team (MEST) members. MEST would not engage L98 in any way.
- Secondly, indirect and direct intervention measures with L98 will be developed by trained animal behaviour/training specialists and approved by DFO and NOAA. These measures would be used if a vessel is unable to disengage L98 and when either the public or property is at serious risk of injury or damage.
- In an emergency situation, where the life of a member of the public or program personnel is directly at risk, all means of force, up to and including lethal force may be employed.

Phase V

5 Re-intervention

5.1 Authority

The authority to re-intervene and determine a subsequent course of action for L98 rests with the accountable agency for the country in which L98 is located. DFO and NOAA recognize that the relocation of L98 may not be successful in stopping him from continuing with his undesirable and risky interactions with people and boats and that, in this case, further intervention may be necessary. As L98's behaviours have been identified as a risk to the public and property, the ability to swiftly intervene is a priority and a requirement for this program to proceed.

- 5.1.1 Canada – The Minister of Fisheries and Oceans Canada has the responsibility and authority in matters respecting marine mammals. Any decision to intervene with L98 following his release shall be made by the responsible DFO authority.
- 5.1.2 US – Should the observed circumstances indicate that post-release intervention may be necessary in US waters, the decision to intervene will be made by the National Oceanic and Atmospheric Administration under the guidance and authority of the Marine Mammal Protection Act.